Region 6

Arkansas, Louisiana, New Mexico, Oklahoma, Texas

Improved Operations Make Upgrade Unnecessary

City of Abbeville Wastewater Treatment Plant, Louisiana

Officials in the City of Abbeville, in southern Louisiana, had budgeted $1.5 million for upgrades to their activated sludge treatment plant. The plant was non-compliant with its permit and was under a compliance order. However, with the help of Jay Adams, a 104(g)(1) technical assistance provider with the University of Southwestern Louisiana's Environmental Training Center, city officials were able to avoid the costly upgrades, offering a huge savings to the community.

In 1995, when Adams assessed the plant and its performance, he found problems with the plant operator's understanding and application of process control. Inadequate technical and administrative support from the city was a problem, as were operability and maintainability concerns. The plant also had infiltration and inflow problems.

"By helping small wastewater treatment facilities achieve compliance with regulations, we can alleviate water pollution from improperly treated sewage as well as the need for [Louisiana Department of Environmental Quality] to take enforcement action against the facilities. It's a win-win situation."

—Louis R. Johnson, Administrator, Louisiana Department of Environmental Quality's Water Quality Management Division

During two years of intermittent assistance, Adams trained the superintendent in aeration and clarifier maintenance and assisted the city's mayor in having the plant's discharge permit revised. The facility's improved process control resulted in removal of the compliance order, and no upgrades to the facility were required.

Creative Use of Effluent Helps Solve Plant Problems

Ramah WWTP, New Mexico

The Ramah WWTP in northwest New Mexico is a 0.025 mgd plant, which was designed originally to discharge its treated effluent to the nearby Zuni River. However, plant officials were concerned that the system's unlined lagoon cells were also allowing effluent to impact groundwater quality in the area. In essence, Ramah was "discharging" both to the area's groundwater and to the Zuni River, a surface water body. The 104(g)(1) technical assistance providers from New Mexico's Water Utilities Technical Assistance Program suggested that it was logical to stop the stream discharge altogether and upgrade the facility so that it could obtain a New Mexico groundwater discharge permit (which Ramah previously did not have because of New Mexico's grandparent clause).

In this case, 104(g)(1) technical assistance providers suggested eliminating stream discharge by using the plant effluent to supplement irrigation of the numerous acres of alfalfa around the treatment plant. The solution suggested by the 104(g)(1) technical assistance provider is expected to mitigate the environmental impact of the plant's discharge and benefit Ramah in the form of a reliable irrigation supply. Another key advantage to Ramah is the reuse of the water, which is, of course, a more profound issue in New Mexico than in many other states.

The 104(g)(1) technical assistance providers helped the town officials complete the necessary application for the new groundwater discharge permit. The New Mexico Environmental Department Ground Water Protection Bureau required synthetic liners and a groundwater monitoring program as conditions for permit approval. Ramah was required to secure state grants to fund a facility upgrade so that the terms of the groundwater permit could be met. In addition, the operator has been encouraged to pursue state certification, and, once construction of the new lagoon system is completed, the operators will be provided with more 104(g)(1) on-site training to ensure compliance with the new permit.

Although the solution to Ramah's problems would not work everywhere, it is an excellent example of innovative thinking and the coordinating role played by 104(g)(1) providers.

"We . . . act as a link between the [State of New Mexico Environmental Department] Certification Office and the [New Mexico] Water and Wastewater Association which represents the operators of the state. . . . We have also been instrumental in integrating New Mexico's 21 Pueblos and Indian Tribes into the mainstream of operator training and certification through our Indian Health Service funded field trainer."

—Robert Gott, Water Utilities Technical Assistance Program Coordinator, New Mexico State University

Texas Office Promotes Smoke Testing to Check for Infiltration/ Inflow Problems

Pottsboro WWTP, Texas

Infiltration and inflow (I/I) are significant problems in many aging wastewater collection systems, increasing flow dramatically during wet weather events. Excess rain water enters the sanitary sewer collection system through cracks in pipes and manholes. This water can overload the piping system and the wastewater treatment plant. Elimination of leaks helps save ratepayers money by reducing the amount of water that has to be transported and treated.

Infiltration and inflow problems are the second most common performance limiting factor found at small wastewater facilities, according to a survey of the nation's 104(g)(1) technical assistance providers. Operator training providers at the Texas Engineering Extension Service listed I/I as the most common performance limiting factor in small systems in Texas. Identifying where I/I problems are occurring, therefore, is one of the most frequent challenges that technical assistance providers face.

Smoke testing sends smoke through manholes into the sewer system so that crews can note where smoke is escaping the pipes. These locations may indicate breaks in the lines that need repair. In their work for Pottsboro, Texas, 104(g)(1) assistance providers did smoke testing on 28 of the city's manholes.

Other towns have also benefitted from smoke testing, and the Texas 104(g)(1) providers recommend that it be part of a routine program to check for inflow and infiltration. Smoke testing is an easy test for a common and potentially expensive weakness in any wastewater treatment system.

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